

SUBSTITUTE SET OF CLAIMS

5 1. An emission control system suitable for a lean-burn internal combustion engine, comprising a first up-stream catalyst system comprising a platinum group metal and a second downstream catalyst system comprising a platinum group metal characterised in that said first and second catalyst systems do not include silver or tungsten, further characterised in that said first catalyst systems comprises platinum and/or palladium and/or rhodium and has a ratio of
10 %NO_x conversion to % hydrocarbon conversion of at least 0.2 as measured at a temperature of 230°C a space velocity of 25,000 hr⁻¹ and a hydrocarbon:NO_x input ratio of 3:1 counting the hydrocarbon as equivalent propane, and further characterised in that said second catalyst system has as measured under the same conditions, a % hydrocarbon conversion greater than 80% and a % carbon monoxide conversion greater than 70%.

15 2. A system according to claim 1, so designed and constructed that when connected to an engine, the exhaust gas flow over the first catalyst system is at a space velocity of below 40,000hr⁻¹.

20 3. A system according to claim 1 or 2, so designed and constructed that when connected to an engine, the exhaust gas flow over the second catalyst system is at a space velocity of from 40,000 to 80,000hr⁻¹.

25 4. A system according to any of claims 1 to 3, wherein both the first and second catalyst systems comprise platinum.

30 5. A process for the control of emissions from the exhaust gases from a lean-burn internal combustion engine by passing said exhaust gases over a first upstream catalyst system and a second downstream catalyst system, characterised in that said first and second catalyst systems do not include silver or tungsten, further characterised in that said first catalyst systems comprises platinum and/or palladium and/or rhodium and has a ratio of %NO_x conversion to % hydrocarbon conversion of at least 0.2 as measured at a temperature of 230°C a space velocity of 25,000 hr⁻¹ and a hydrocarbon:NO_x input ratio of 3:1 counting the hydrocarbon as equivalent propane, and further characterised in that said second catalyst system has, as measured under the

5 same conditions, a % hydrocarbon conversion greater than 80% and a % carbon monoxide conversion greater than 70%.

6. A process according to claim 5, characterised in that the exhaust gases are passed over the first catalyst system at a space velocity below $40,000 \text{ hr}^{-1}$.

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7. A process according to claim 5 or 6, characterised in that the exhaust gases are passed over the second catalyst system at a space velocity of from $40,000$ to $80,000 \text{ hr}^{-1}$.

8. A process according to claim 5, 6 or 7, wherein the engine is in a vehicle.

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